

# (12) UK Patent Application (19) GB (11) 2 150 814 A

(43) Application published 10 Jul 1985

(21) Application No 8426724

(22) Date of filing 23 Oct 1984

(30) Priority data

(31) 205056  
205056

(32) 28 Oct 1983  
10 Oct 1984

(33) NZ

(51) INT CL<sup>4</sup>  
A45F 3/14

(52) Domestic classification  
A3V 9B2A

(56) Documents cited  
None

(58) Field of search  
A3V

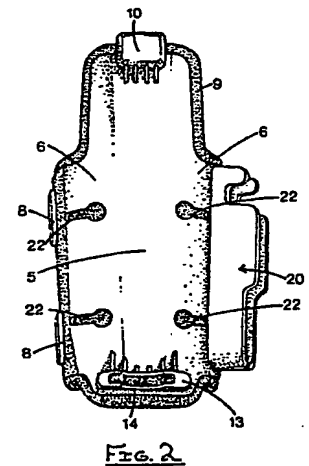
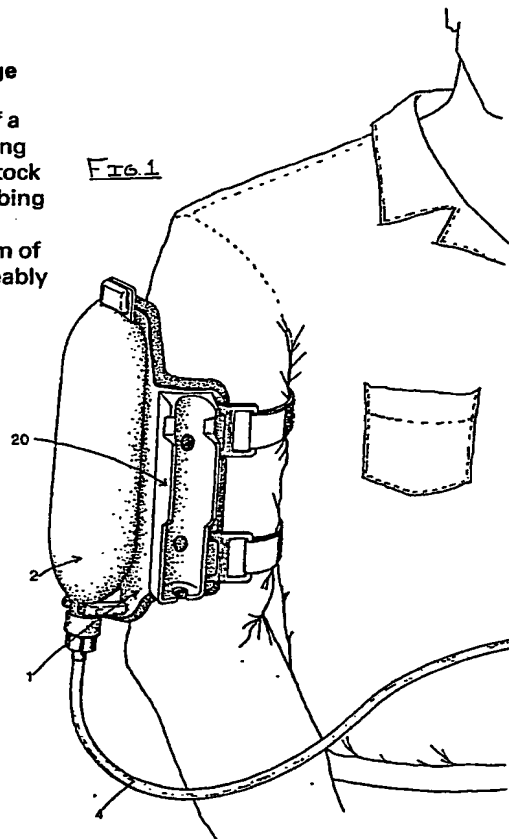
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(54) A holder for a vaccine cartridge

(57) A holder (1) for the carriage of a cartridge of fluid medicament during the administration thereof to livestock by way of a syringe and flexible tubing (4). The holder has portions (6) for snugly fitting about the upper arm of the user and is adapted for replaceably support of the cartridge.

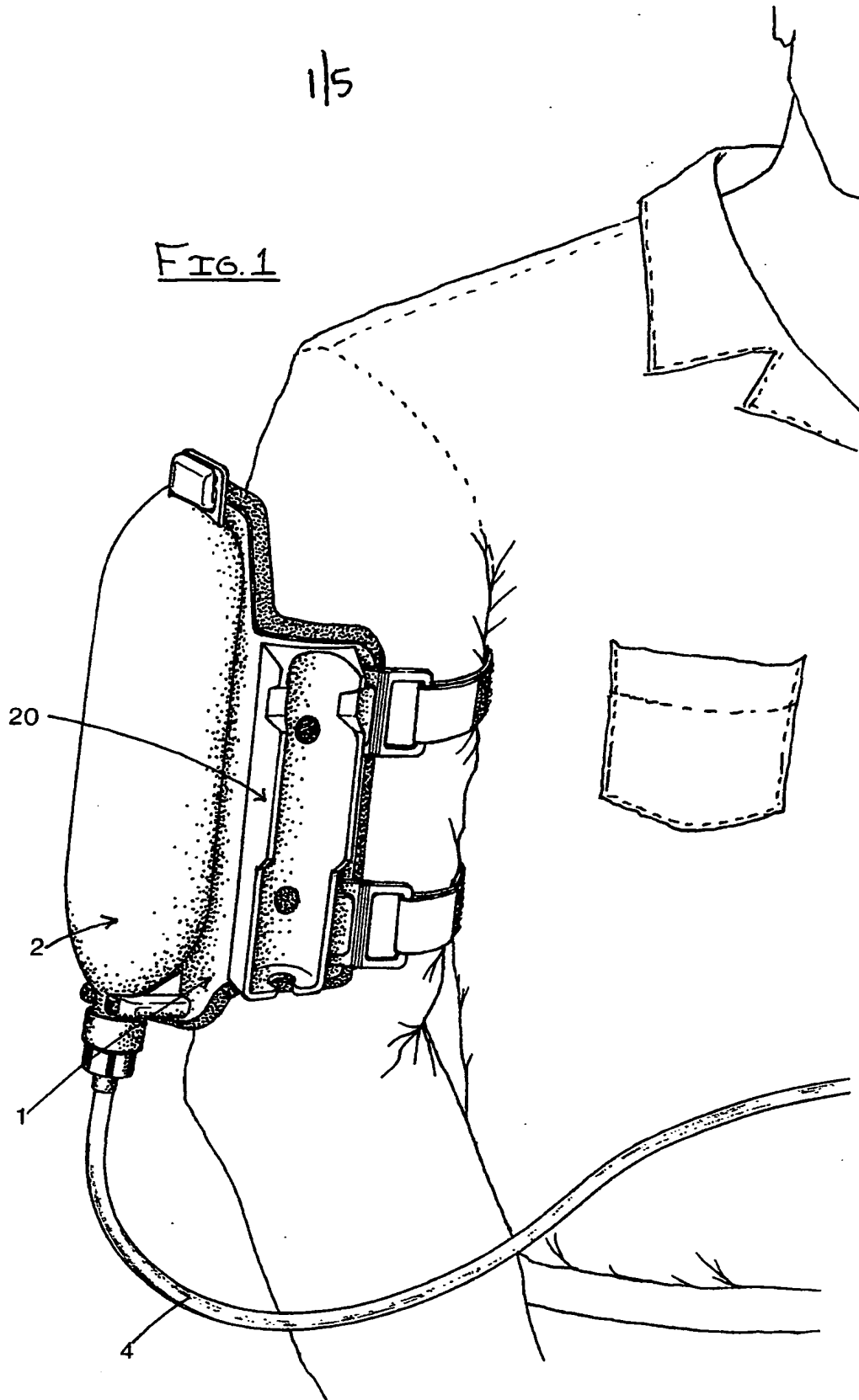


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FIG. 1



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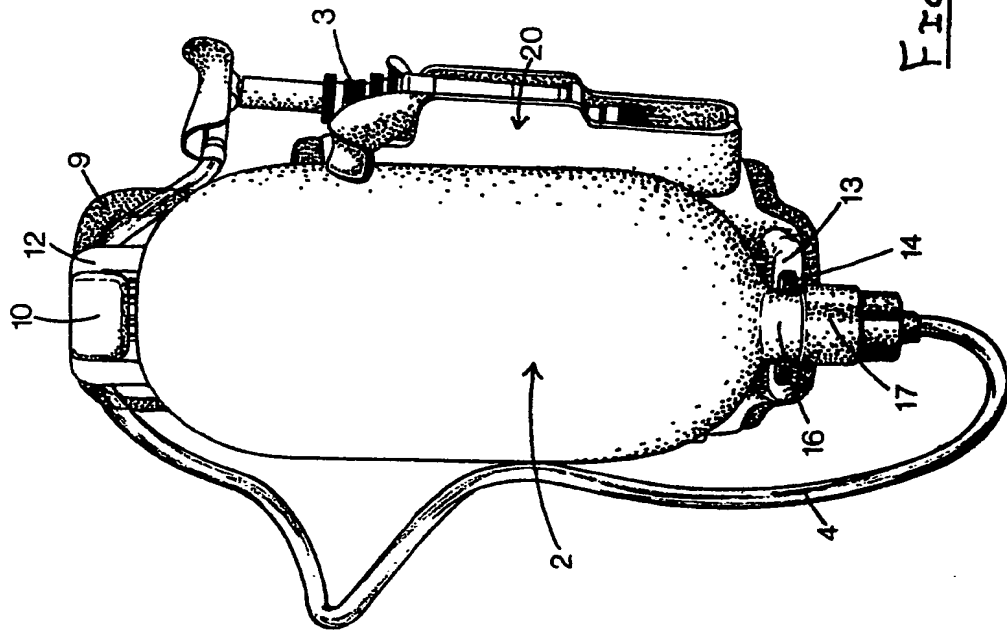


Fig. 3

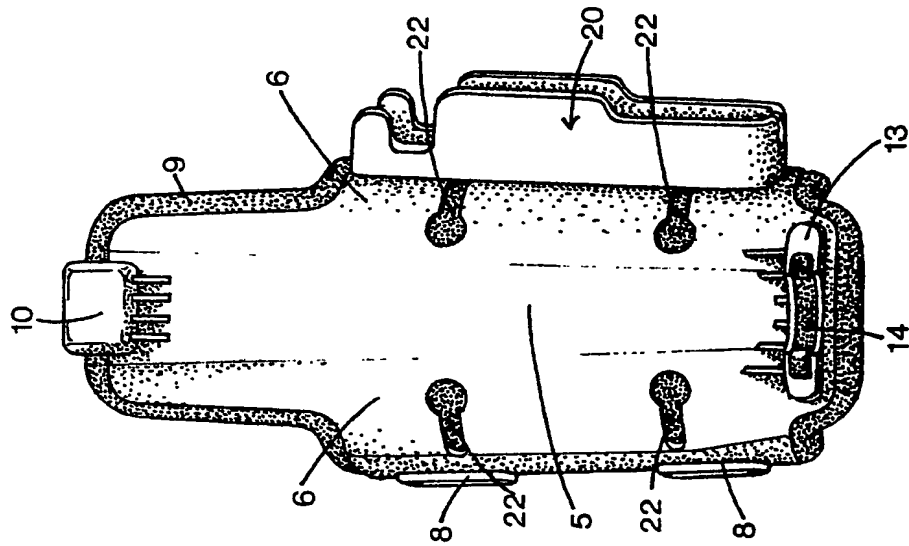


Fig. 2

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FIG. 4

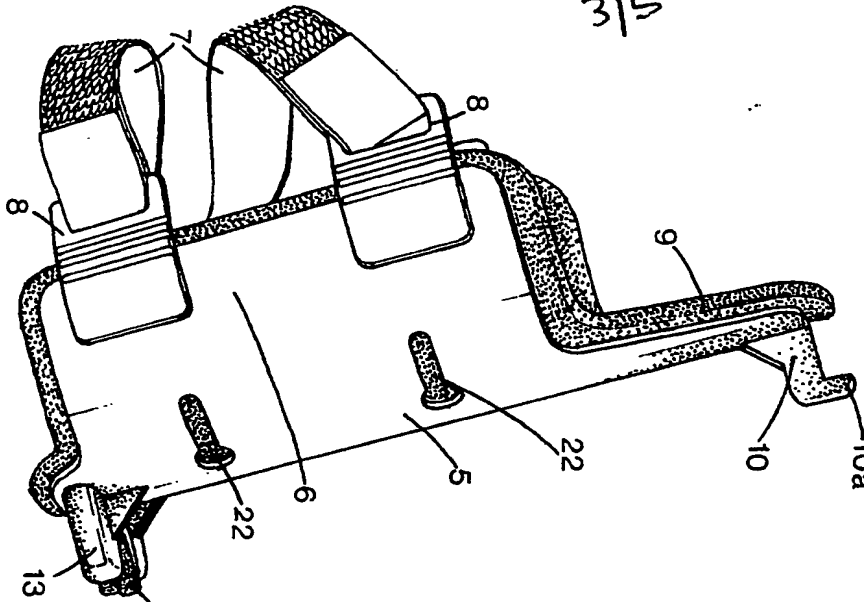


FIG. 5

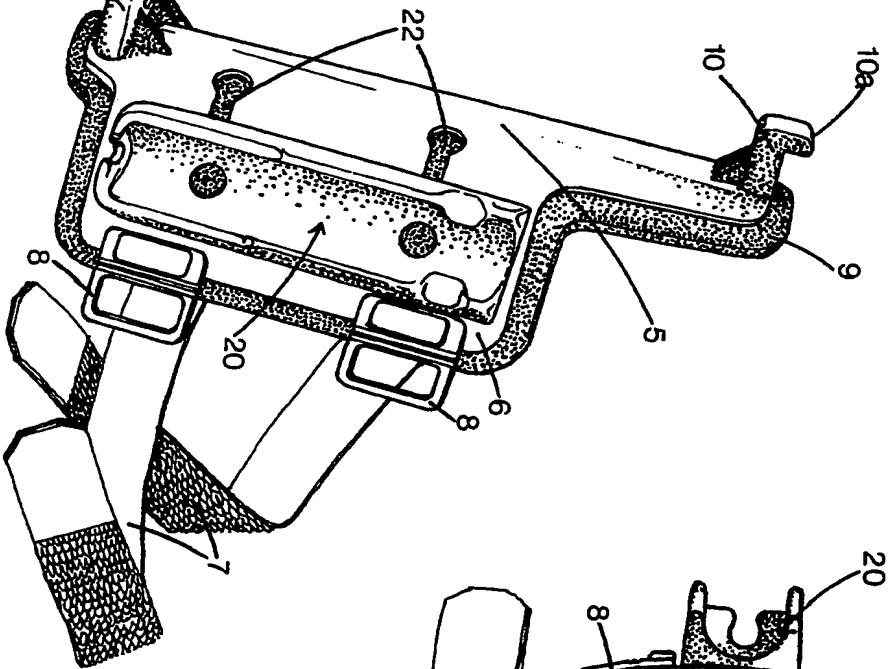
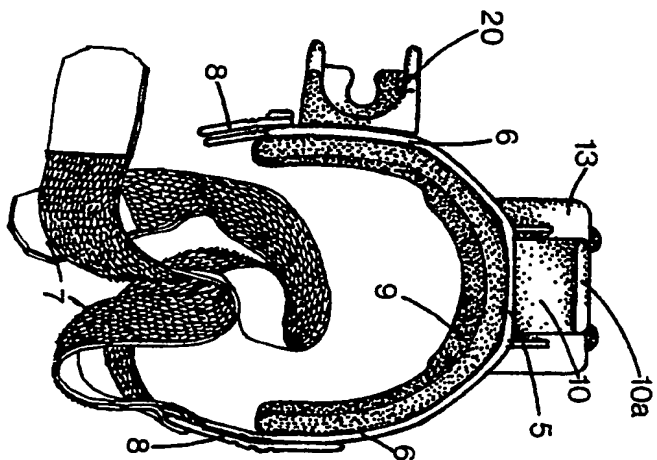


FIG. 6



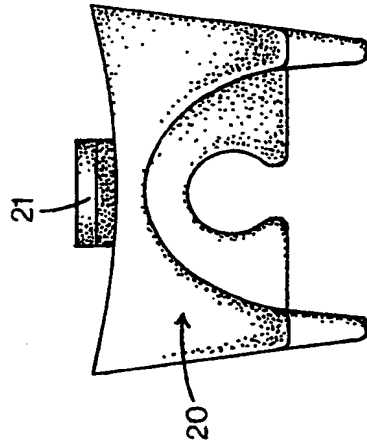


FIG. 8

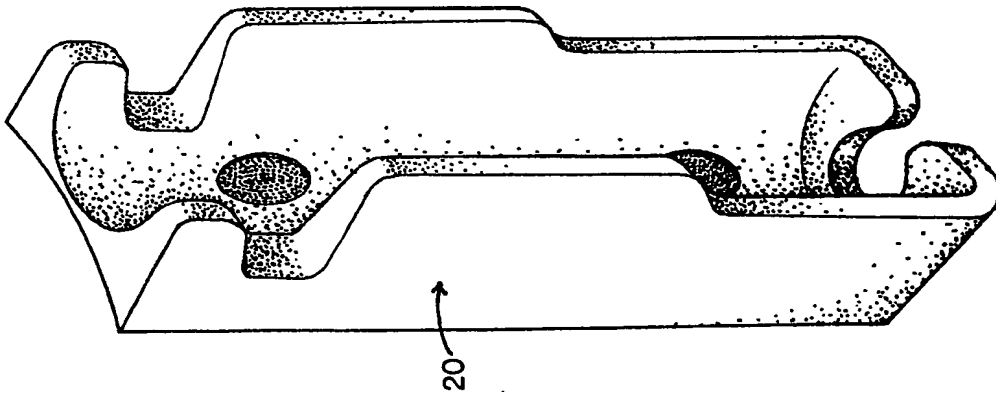


FIG. 7

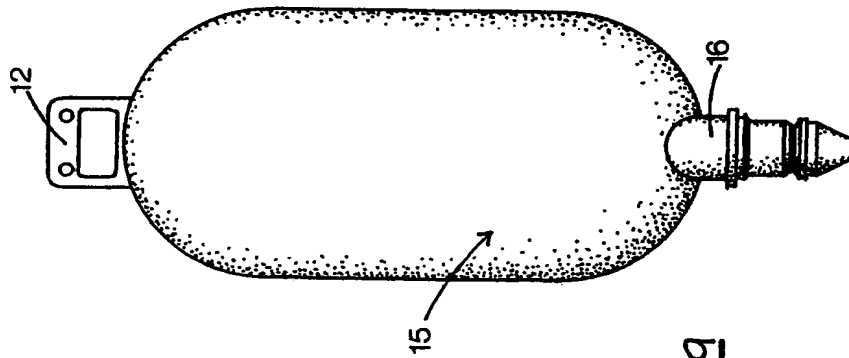


FIG. 9

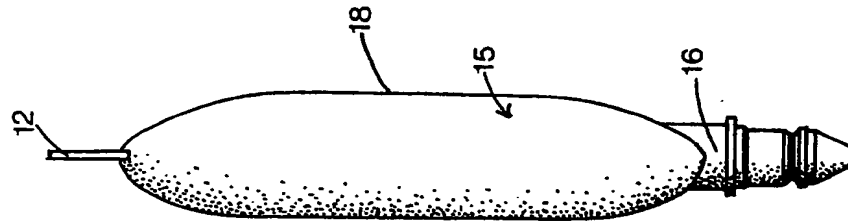


FIG. 10

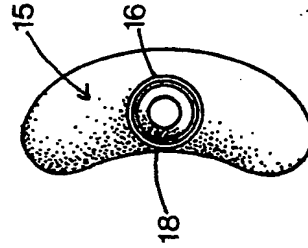


FIG. 11

## SPECIFICATION

## A holder for a vaccine cartridge

In the vaccination dosing or the like of livestock, the vaccine or other fluid medicament (herein referred to as vaccine, for convenience) is often administered using a hypodermic syringe or like form of administration device. A number of animals are generally vaccinated together, and to avoid having to re-fill or replace the vaccination syringe after each administration the syringe is generally adapted to communicate with a supply of vaccine, from which it is automatically replenished.

Such a supply may typically comprise a container or cartridge of medicament, of for example, 1 half litre volume. These cartridges are often formed of a plastics material and are readily attachable/detachable to/from a length of flexible conduit or tubing through which their contents are supplied to the vaccination syringe so that the cartridge, when empty, may be disposed of and replaced.

During the actual administration operation some degree of movement of the user, and in particular of the user's arm relative to the user's body is generally involved. It is common practice to hang the vaccine cartridge around the neck by way of an appropriate loop of cord of the like, but such arrangements are at least makeshift and are unsatisfactory, and the distance between the vaccine cartridge and the syringe is effectively variable.

The vaccine cartridge tends to dangle unsecurely, and if sufficient cartridge-syringe tubing is provided to enable the user's arm to be fully extended without restriction, the cartridge syringe distance then being relatively large, then the cartridge syringe tubing often becomes entangled when the syringe is held close to the user's body and the cartridge-syringe distance is relatively small.

According to my invention therefore, a holder for a vaccine cartridge is provided whereby the cartridge may be conveniently secured to and carried by the user in an out-of-the-way fashion, the above disadvantages of a variable distance between cartridge and syringe being at least to some extent avoided.

My invention may be broadly stated to comprise a holder for the carriage of a cartridge of fluid medicament during the administration thereof to livestock via a hand-held administration device supplied with medicament from the said cartridge via a flexible conduit, said holder being adapted to be secured to the arm of a user and to replaceably support a cartridge of medicament.

Preferably the holder is adapted to support the cartridge of medicament in an inverted position so that the fluid medicament is assisted in being fed from the cartridge by gravity.

In one preferred form of the invention the holder includes an outwardly depending protrusion from which the medicament cartridge may be suspended in an inverted position by engagement of a loop formed on the base of the cartridge over the said protrusion. The holder additionally includes means to releasably engage the neck of the cartridge, to

assist in supporting the same from the holder in a secure fashion.

The holder of the invention is adapted to be secured to the arm of a user and may include, in this regard, laterally depending arm engaging portions adapted to engage the upper arm, for example, of a user on either side thereof. These arm engaging portions could substantially encircle the arm to grip the same and would in that event be formed of a resiliently deformable material to enable ready fitment and removal of the holder. However, the holder may additionally include securing straps which extend between the arm engaging portions of the holder.

Preferred forms of the holder additionally include a subsidiary holster for the medicament administration device supplied with vaccine from the cartridge supported by the holder so that the device may be placed in the subsidiary holster when not in use, leaving the user's hands free to, for example, handle livestock.

Also within the scope of the invention is a vaccine cartridge for the holder of the invention.

Holders formed in accordance with my invention provide for the easy and convenient carrying of a vaccine cartridge. In use the holder with vaccine cartridge supported therefrom is positioned on the arm of the user which will be used to manipulate the vaccine syringe and thus the variable cartridge-syringe distance is eliminated, a short fixed length of communicating tubing extending from the holster, along the user's forearm to the syringe being sufficient. Cartridges of vaccine may be readily replaced when empty without removal of the holster necessarily being required and the holder itself may easily be attached to/detached from the user's arm.

A preferred form of holder and of a vaccine cartridge therefore are illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of the preferred form holder in place on a user's arm and supporting a cartridge of medicament,

Fig. 2 is a view of the preferred form holder of Fig. 1 from the front, without a cartridge of medicament,

Fig. 3 is a view of the preferred form holder from the front, supporting a cartridge of medicament,

Fig. 4 is a view of the preferred form holder from one side,

Fig. 5 is a view of the preferred form holder from the other side,

Fig. 6 is a view of the preferred form holder from above,

Fig. 7 is a perspective view of the syringe holster of the preferred form holder detached therefrom,

Fig. 8 is an end view of the preferred form syringe holster,

Fig. 9 is a plan view of the preferred form of medicament cartridge,

Fig. 10 is a side view of the preferred form medicament cartridge, and,

Fig. 11 is an end view of the preferred form medicament cartridge.

In Fig. 1 the preferred form holder is shown secured to the upper arm of a user. The holder is

generally indicated at reference numeral 1 and a cartridge of medicament supported from the holder at 2. The contents of the cartridge are supplied to a hand-held syringe 3 (not shown in Fig. 1) via a flexible tubing 4.

The preferred form holder is shown in more detail in Figs. 2 to 8. It is suitably formed of a plastics material by injection moulding, for example. The holder comprises a body portion 5. Arm engaging portions 6 extend laterally from the body portion 5 on either side thereof as shown and are spaced apart such that in use they will be a snug fit about the upper arm of the user, without being restrictive. It is preferred that the arm engaging portions 6 of the holder, at least, be formed of a resiliently deformable material, so that they may be flexed in use during fitting of the holder. Securing strap 7 extend between loops 8 formed on the arm engaging portions 6, so that once the holder has been placed on the arm of a user the straps may be pulled tight to secure the holder in position. The straps are suitably formed of VELCRO (registered trade mark) or other suitable "sticky" material.

Preferably the arm engaging "interior" of the holder is lined with a non-slip and cushioning padding 9 formed of, for example, a foam rubber material.

A protrusion which is a pillar 10 having a lip portion 10a on its distal end depends outwardly from the top of the body portion 5 of the holder as shown. A medicament cartridge is securable to the holder by engagement of a loop 12 formed on the base of the cartridge over the pillar 10, as shown in Fig. 3. Suitable neck engaging means 13 depends from the lower portion of the holder as shown, to engage the medicament cartridge neck in use.

The neck engaging means 13 comprises a plastic clip 14 whereby the cartridge neck will be engaged in a snap fit.

The preferred form cartridge suitable for use with the preferred form holder is shown in Figs. 9 to 11 and is generally indicated at 15. It is suitably formed of a plastics material and is ideally thin walled so that it will collapse as medicament is removed, no replacement air needing to be admitted. The cartridge has a neck 16 and suitably the cartridge is closed across the top of the neck by a thin puncturable diaphragm. A cap 17 carried on the end of the flexible tubing 4 (see Fig. 1) includes a suitable bayonet fitting (not shown) which will puncture the diaphragm when the cap 17 is fitted to a fresh cartridge, enabling withdrawal of the contents.

The wall 18 of the cartridge which will in use lie adjacent the user's arm is concave so that it is appropriately shaped thereto.

The syringe holster is generally indicated at 20 in the drawings and is shown in detail in Figs. 7 and 8. It is suitably shaped so that a syringe or other like administration device used may be placed in the holster when not in use (see Fig. 3, for example), and the shape of holster will obviously need to be

adapted to the configuration of the particular administration device employed.

The holster 20 of the preferred form holder is attached to the holder by way of tabs 21 (see Fig. 8) which engage in keyhole slots 22 formed in the holder body. A pair of slots 22 are formed on either side of the holder so that the syringe holster 20 may be conveniently positioned whether the holder is fitted to either the left or the right arm.

The above describes my invention including a preferred form thereof. Alterations and modifications as will be obvious to those skilled in the art are intended to be incorporated within the scope thereof, which is defined in the appended claims.

#### CLAIMS

1. A holder for the carriage of a cartridge of fluid medicament during the administration thereof to livestock by way of a hand-held administration device supplied with medicament from the said cartridge via a flexible conduit, said holder being adapted to be secured to the arm of a user and to replaceably support a cartridge of medicament.

2. A holder as claimed in claim 1, adapted to support a said cartridge of medicament in an inverted position.

3. A holder as claimed in claim 2, including an outwardly depending protrusion from which a said cartridge may be supported in an inverted position by engagement of a loop formed on the base of the said cartridge over the said protrusion.

4. A holder as claimed in Claim 3, additionally including means to releasably engage a neck portion of a said cartridge.

5. A holder as claimed in any one of the preceding claims, including laterally depending arm engaging portions adapted to engage the upper arm of a user on either side thereof.

6. A holder as claimed in claim 5, including securing strap to extend between the said arm engaging portions.

7. A holder as claimed in either claim 5 or claim 6, wherein at least the said arm engaging portions of the holder are formed of a resiliently deformable material.

8. A holder as claimed in any one of the preceding claims including a subsidiary holster for a medicament administration device to support such a device when not in use.

9. A holder for the carriage of a cartridge of fluid medicament during the administration thereof to livestock via a hand-held administration device supplied with medicament from the said cartridge via a flexible conduit, substantially as described herein and as illustrated in Figs. 1 to 8 of the accompanying drawings.

10. A medicament cartridge for a holder as claimed in any one of the preceding claims.

11. A medicament cartridge as claimed in claim 10, including a loop formed on the base of the cartridge enabling attachment of the cartridge to the



holder.

12. A cartridge as claimed in either claim 12 or claim 13, wherein at least one major wall of the cartridge is a concave wall.

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13. A cartridge for a holder as claimed in any one of the preceding claims, substantially as described herein and as illustrated in Figs. 9 to 11 of the accompanying drawings.

Printed for Her Majesty's Stationery Office by Courier Press, Leamington Spa. 7/1985. Demand No. 8817443.  
Published by the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.